



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

SORRELLS *et al.*

Appl. No.: 10/086,250

Filed: March 4, 2002

For: **Applications of Universal
Frequency Translation**

Confirmation No.: 1369

Art Unit: 2687

Examiner: Bhattacharya, Sam

Atty. Docket: 1744.0140006

Supplemental Information Disclosure Statement

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Information Disclosure Statement filed on December 17, 2003 in connection with the above-captioned application.

In addition to providing hard copies of the documents as required by applicable rules (see box 7 below), Applicants herewith provide a Compact Disc labeled "Disc 3" ✓ having stored thereon searchable electronic copies (in PDF format) of the documents listed on the PTO-1449. More specifically, the CD contains electronic copies of documents AL23, AG55-AI55, AA56-AI56, AA57-AI57, AA58-AI58, AA59-AI59, AN59-AP59, AA60-AI60, AA61-AI61, AA62-AI62, AA63-AI63, AA64-AI64, and AA65-AG65. In addition, the CD also contains electronic copies of documents AE54-AI54 and AA55-AF55, all of which were cited in the present application in a previous

Information Disclosure Statement. The file names on the CD correspond to the identifiers on the PTO-1449 forms. It is noted that the CD is being provided in addition to hard copies of the documents for the convenience of the Examiner.

Applicants have listed publication dates on the attached Form PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Documents AL23, AF56-AH56, AO59, and AE61 were cited in an Office Action in related U.S. Patent Application No. 09/669,634, filed September 26, 2000, entitled "High Frequency Translator and Method of High Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 6,049,706; 6,421,534; and 6,560,301, which have already been cited in the present application.

Documents AG55 and AH55 were cited in an Office Action in related U.S. Patent Application No. 10/317,181, filed December 12, 2002, entitled "Differential Frequency Down-Conversion Using Techniques of Universal Frequency Translation Technology," directed to related subject matter.

Documents AI55 and AA56 were cited in an Office Action in related U.S. Patent Application No. 10/317,165, filed December 12, 2002, entitled "Method and Apparatus for Reducing DC Offsets in Communication Systems Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AB56 and AN59 were cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled, "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AB56, AP59, and AG63 were cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were Dines, J.A.B., "Smart Pixel Optoelectronic Receiver Based on a Charge Sensitive Amplifier Design," *IEEE Journal of Selected Topics in Quantum Electronics*, IEEE, Vol. 2, No. 1, pp. 117-120 (April 1996); Simoni, A. *et al.*, "A Digital Camera for Machine Vision," *20th International Conference on Industrial Electronics, Control and Instrumentation*, IEEE, pp. 879-883 (September 1994); and Stewart, R.W. and Pfann, E., "Oversampling and sigma-delta strategies for data conversion," *Electronics & Communication Engineering Journal*, IEEE, pp. 37-47 (February 1998), which have already been cited in the present application.

Documents AC56, AD56, AI56, AA57, AD64, AE64, and AA65 are co-owned patents which are directed to related subject matter.

Documents AC56, AD56, AI56, AA57, and AH59 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/838,387, filed April 20, 2001,

entitled "Method and System for Down-Converting and Up-Converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter. Also cited in said Notice of Allowance were U.S. Patent Nos. 5,937,013; 6,061,551; and 6,647,250, which have already been cited in the present application.

Documents AD56, AI56, AG61, and AH61 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/525,615, filed March 14, 2000, entitled "Method, System, and Apparatus for Balanced Frequency Up-conversion of a Baseband Signal and 4-Phase Receiver and Transceiver Embodiments," directed to related subject matter. Also cited in said Notice of Allowance were U.S. Patent Nos. 6,091,940 and 6,370,371, which have already been cited in the present application.

Document AE56 was cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled, "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AB57-AE57 were cited in an Office Action in related U.S. Patent Application No. 09/567,978, filed May 10, 2000, entitled "Carrier and Clock Recovery Using Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,937,013, which has already been cited in the present application.

Documents AF57 and AG57 were cited in a Notice of Allowance in related U.S. Patent Application No. 10/330,219, filed December 30, 2002, entitled "Methods and Systems for Down-Converting Electromagnetic Signals, and Applications Thereof," directed to related subject matter.

Documents AH57, AI57, AA58-AI58, and AA59 were cited in an Office Action in related U.S. Patent Application No. 09/566,188, filed May 5, 2000, entitled "Integrated Frequency Translation and Selectivity with Gain Control Functionality, and Applications Thereof," directed to related subject matter.

Documents AB59 and AC59 were cited in an Office Action in related U.S. Patent Application No. 09/632,856, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments and Circuit Implementation," directed to related subject matter.

Documents AD59-AF59 were cited in an Office Action in related U.S. Patent Application No. 09/569,044, filed May 10, 2000, entitled "Universal Platform Module and Methods and Apparatuses Relating Thereto Enabled by Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 2,057,613; 2,241,078; 2,283,575; 2,358,152; 2,410,350; 2,451,430; 2,472,798; 4,653,117; and 5,241,561, which have already been cited in the present application.

Document AG59 was cited in an Office Action in related U.S. Patent Application No. 10/289,377, filed November 7, 2002, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,471,665; 5,793,817; and 5,898,912, which have already been cited in the present application.

Documents AI59 and AI64 were cited in an Office Action in related U.S. Patent Application No. 09/590,955, filed June 9, 2000, entitled "Phase Shifting Applications of Universal Frequency Translation," directed to related subject matter.

Documents AI59 and AA60 were cited in an Office Action in related U.S. Patent Application No. 09/525,185, filed March 14, 2000, entitled "Spread Spectrum Applications of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,339,459; 5,369,789; and 5,937,013, which have already been cited in the present application.

Documents AB60-AE60 were cited in an Office Action in related U.S. Patent Application No. 09/569,045, filed May 10, 2000, entitled "Methods and Apparatuses Relating to a Universal Platform Module and Enabled by Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,339,459 and 5,557,641, which have already been cited in the present application.

Documents AF60-AH60 were cited in an Office Action in related U.S. Patent Application No. 09/590,955, filed June 9, 2000, entitled "Phase Shifting Applications of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,339,459, which has already been cited in the present application.

Documents AI60, AA61, and AB61 were cited in an Office Action in related U.S. Patent Application No. 09/550,642, filed April 14, 2000, entitled "Method and System for Down-Converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter.

Documents AC61 and AD61 were cited in an Office Action in related U.S. Patent Application No. 10/317,165, filed December 12, 2002, entitled "Method and Apparatus

for Reducing DC Offsets in Communication Systems Using Universal Frequency Translation Technology, ” directed to related subject matter.

Document AF61 was cited in an Office Action in related U.S. Patent Application No. 09/476,093, filed January 3, 2000, entitled "Communication System Method With Multi-Mode and Multi-Band Functionality and Embodiments Thereof, Such as the Family Radio Service," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,937,013 and 5,790,587, which have already been cited in the present application.

Documents AI61, AA62, and AB62 were cited in a Written Opinion in related PCT Application No. PCT/US03/16403, filed May 27, 2003, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter. Also cited in said Written Opinion was U.S. Patent No. 5,483,600, which has already been cited in the present application.

Documents AI61 and AA62-AH62 were cited in an Office Action in related U.S. Patent Application No. 10/290,323, filed November 8, 2002, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,483,600, which has already been cited in the present application.

Documents AI62, AA63, and AB63 were cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter. Also cited in said Office

Action were U.S. Patent Nos. 5,937,013; 6,014,551; 6,073,001; 6,085,073; and 6,314,279, which have already been cited in the present application.

Documents AC63-AF63 were cited in an Office Action in related U.S. Patent Application No. 09/986,764, filed November 9, 2001, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

Documents AH63, AI63, AA64, and AB64 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/987,193, filed November 13, 2001, entitled "Method and Apparatus for a Parallel Correlator and Applications Thereof," directed to related subject matter.

Document AC64 was cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter.

Documents AF64 and AG64 were cited in an Office Action in related U.S. Patent Application No. 10/289,377, filed November 7, 2002, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

Document AH64 was cited in a Notice of Allowance in related U.S. Patent Application No. 10/197,441, filed July 18, 2002, entitled "Method and System for Frequency Up-Conversion With a Variety of Transmitter Configurations," directed to related subject matter.

Document AB65 was cited in an Office Action in related U.S. Patent Application No. 09/569,045, filed May 10, 2000, entitled "Method and Apparatuses Relating to a Universal Platform Module and Enabled by Universal Frequency Translation Technology," directed to related subject matter.

Documents AC65-AF65 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/770,675, filed January 29, 2001, entitled "Wireless and Wired Cable Modem Applications of Universal Frequency Translation Technology," directed to related subject matter.

Document AG65 is a co-owned, pending, published patent application directed to related subject matter.

It is noted that some of these documents could be classified in more than one of the above categories.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- ☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.
- ☐ 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed before the mailing of a first Office Action on the merits. No statement or fee is required.

- ☒ 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.
- ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
- ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☒ c. Attached is our PTO-2038 Credit Card Payment Form in the amount of **\$180.00** in payment of the fee under 37 C.F.R. § 1.17(p).
- ☐ 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Enclosed find our PTO-2038 Credit Card Payment Form in the amount of \$_____ in payment of the fee under 37 C.F.R. § 1.17(p); in addition:
- ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

- ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☐ 5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- ☒ 6. A concise explanation of the relevance of non-English language document AL23 appears below:
- Document AL23 (DE 196 48 915 A1) appears to describe a process of frequency conversion. An English-language translation of document AL23 is enclosed as document AO59.
- ☒ 7. Copies of documents AL23, AN59, AO59, and AP59 are enclosed. However, in accordance with 37 C.F.R. § 1.98(a)(2), copies of the U.S. patents and patent application publications cited on the attached Form PTO-1449 are not enclosed.
- ☐ 8. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. _____, filed _____, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).
- ☐ 9. It is expected that the examiner will review the prosecution and cited art in the parent application no. _____, in accordance with MPEP 2001.06(b), and indicate in the next communication from the office that the art cited in the earlier prosecution history has been reviewed in connection with the present application.

It is respectfully requested that the Examiner initial and return a copy of the enclosed Form PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Jeffrey S. Weaver
Attorney for Applicants
Registration No. 45,608

Date: April 27, 2005

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FORM PTO-1449

SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.
1744.0140006APPLICATION NO.
10/086,250INVENTORS
SORRELLS *et al.*FILING DATE
March 4, 2002ART UNIT
2687

U.S. PATENT DOCUMENTS

| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB-CLASS | FILING DATE |
|---------------------|------|-----------------|---------|--------------------------|-------|-----------|-------------|
| | AA | | | | | | |
| | AB | | | | | | |
| | AC | | | | | | |
| | AD | | | | | | |
| | AE | | | | | | |
| | AF | | | | | | |
| | AG55 | 5,682,099 | 10/1997 | Thompson <i>et al.</i> | | | |
| | AH55 | 6,094,084 | 07/2000 | Abou-Allam <i>et al.</i> | | | |
| | AI55 | 6,067,329 | 05/2000 | Kato <i>et al.</i> | | | |

FOREIGN PATENT DOCUMENTS

| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB-CLASS | TRANSLATION |
|---------------------|------|------------------|---------|---------|-------|-----------|--------------------|
| | AJ | | | | | | Yes No |
| | AK | | | | | | Yes No |
| | AL23 | DE 196 48 915 A1 | 06/1998 | DE | | | Yes (Doc. AO59) |
| | AM | | | | | | Yes No |

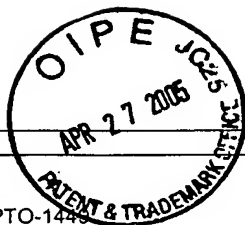
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

| | | | |
|--|----|-----------|---|
| | AN | <u>59</u> | Simoni, A. <i>et al.</i> , "A Single-Chip Optical Sensor with Analog Memory for Motion Detection," <i>IEEE Journal of Solid-State Circuits</i> , IEEE, Vol. 30, No. 7, pp. 800-806 (July 1995). |
| | AO | <u>59</u> | English Translation of German Patent Publication No. DE 196 48 915 A1, 10 pages. |
| | AP | <u>59</u> | Deboo, Gordon J., <i>Integrated Circuits and Semiconductor Devices</i> , 2 nd Edition, McGraw-Hill, Inc., pp. 41-45 (1977). |
| | AQ | | |
| | AR | | |

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



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|---------------------|------|-----------------|---------|------------------------|-------|-----------|-------------|
| | AA56 | 6,516,185 | 02/2003 | MacNally | | | |
| | AB56 | 6,608,647 | 08/2003 | King | | | |
| | AC56 | 6,687,493 B1 | 02/2004 | Sorrells <i>et al.</i> | | | |
| | AD56 | 6,694,128 B1 | 02/2004 | Sorrells <i>et al.</i> | | | |
| | AE56 | 6,031,217 | 02/2000 | Aswell <i>et al.</i> | | | |
| | AF56 | 5,955,992 | 09/1999 | Shattil | | | |
| | AG56 | 5,999,561 | 12/1999 | Naden <i>et al.</i> | | | |
| | AH56 | 6,686,879 B2 | 02/2004 | Shattil | | | |
| | AI56 | 6,704,549 B1 | 03/2004 | Sorrells <i>et al.</i> | | | |

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|---------------------|----|-----------------|------|---------|-------|-----------|-------------|
| | AJ | | | | | | Yes No |
| | AK | | | | | | Yes No |
| | AL | | | | | | Yes No |
| | AM | | | | | | Yes No |

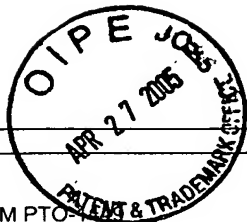
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

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|---------------------|------|-----------------|---------|-------------------------|-------|-----------|-------------|
| | AA57 | 6,704,558 B1 | 03/2004 | Sorrells <i>et al.</i> | | | |
| | AB57 | 5,490,176 | 02/1996 | Peltier | | | |
| | AC57 | 5,970,053 | 10/1999 | Schick <i>et al.</i> | | | |
| | AD57 | 6,078,630 | 06/2000 | Prasanna | | | |
| | AE57 | 6,600,911 B1 | 07/2003 | Morishige <i>et al.</i> | | | |
| | AF57 | 5,179,731 | 01/1993 | Trankle <i>et al.</i> | | | |
| | AG57 | 5,589,793 | 12/1996 | Kassapian | | | |
| | AH57 | 4,510,467 | 04/1985 | Chang <i>et al.</i> | | | |
| | AI57 | 4,772,853 | 09/1988 | Hart | | | |

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|---------------------|----|-----------------|------|---------|-------|-----------|-------------|
| | AJ | | | | | | Yes No |
| | AK | | | | | | Yes No |
| | AL | | | | | | Yes No |
| | AM | | | | | | Yes No |

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|---------------------|------|-----------------|---------|-------------------------|-------|-----------|-------------|
| | AA58 | 4,972,436 | 11/1990 | Halim <i>et al.</i> | | | |
| | AB58 | 5,012,245 | 04/1991 | Scott <i>et al.</i> | | | |
| | AC58 | 5,422,909 | 06/1995 | Love <i>et al.</i> | | | |
| | AD58 | 5,440,311 | 08/1995 | Gallagher <i>et al.</i> | | | |
| | AE58 | 5,926,513 | 07/1999 | Suominen <i>et al.</i> | | | |
| | AF58 | 5,995,030 | 11/1999 | Cabler | | | |
| | AG58 | 6,047,026 | 04/2000 | Chao <i>et al.</i> | | | |
| | AH58 | 6,049,573 | 04/2000 | Song | | | |
| | AI58 | 6,076,015 | 06/2000 | Hartley <i>et al.</i> | | | |

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|---------------------|----|-----------------|------|---------|-------|-----------|-------------|
| | AJ | | | | | | Yes No |
| | AK | | | | | | Yes No |
| | AL | | | | | | Yes No |
| | AM | | | | | | Yes No |

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|---------------------|------|-----------------|---------|-----------------------------|-------|-----------|-------------|
| | AA59 | 6,144,331 | 11/2000 | Jiang | | | |
| | AB59 | 6,018,553 | 01/2000 | Sanielevici <i>et al.</i> | | | |
| | AC59 | 6,317,589 B1 | 11/2001 | Nash | | | |
| | AD59 | 5,058,107 | 10/1991 | Stone <i>et al.</i> | | | |
| | AE59 | 5,757,858 | 05/1998 | Black <i>et al.</i> | | | |
| | AF59 | 6,531,979 B1 | 03/2003 | Hynes | | | |
| | AG59 | 6,018,262 | 01/2000 | Noro <i>et al.</i> | | | |
| | AH59 | 4,761,798 | 08/1988 | Griswold, Jr. <i>et al.</i> | | | |
| | AI59 | 5,982,315 | 11/1999 | Bazarjani <i>et al.</i> | | | |

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|---------------------|----|-----------------|------|---------|-------|-----------|-------------|
| | AJ | | | | | | Yes No |
| | AK | | | | | | Yes No |
| | AL | | | | | | Yes No |
| | AM | | | | | | Yes No |

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

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1744.0140006APPLICATION NO.
10/086,250INVENTORS
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2687

U.S. PATENT DOCUMENTS

| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB-CLASS | FILING DATE |
|---------------------|------|-----------------|---------|--------------------------|-------|-----------|-------------|
| | AA60 | 6,459,721 B1 | 10/2002 | Mochizuki <i>et al.</i> | | | |
| | AB60 | 6,151,354 | 11/2000 | Abbey | | | |
| | AC60 | 6,169,733 B1 | 01/2001 | Lee | | | |
| | AD60 | 6,363,262 B1 | 03/2002 | McNicol | | | |
| | AE60 | 6,697,603 B1 | 02/2004 | Lovinggood <i>et al.</i> | | | |
| | AF60 | 5,282,222 | 01/1994 | Fattouche <i>et al.</i> | | | |
| | AG60 | 5,949,827 | 09/1999 | DeLuca <i>et al.</i> | | | |
| | AH60 | 6,014,176 | 01/2000 | Nayebi <i>et al.</i> | | | |
| | AI60 | 5,678,226 | 10/1997 | Li <i>et al.</i> | | | |

FOREIGN PATENT DOCUMENTS

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|---------------------|----|-----------------|------|---------|-------|-----------|-------------|
| | AJ | | | | | | Yes No |
| | AK | | | | | | Yes No |
| | AL | | | | | | Yes No |
| | AM | | | | | | Yes No |

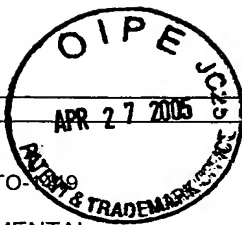
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|---------------------|------|-----------------|---------|------------------------|-------|-----------|-------------|
| | AA61 | 5,760,632 | 06/1998 | Kawakami <i>et al.</i> | | | |
| | AB61 | 6,160,280 | 12/2000 | Bonn <i>et al.</i> | | | |
| | AC61 | 5,481,570 | 01/1996 | Winters | | | |
| | AD61 | 5,745,846 | 04/1998 | Myer <i>et al.</i> | | | |
| | AE61 | 5,345,239 | 09/1994 | Madni <i>et al.</i> | | | |
| | AF61 | 4,132,952 | 01/1979 | Hongu <i>et al.</i> | | | |
| | AG61 | 5,260,973 | 11/1993 | Watanabe | | | |
| | AH61 | 6,307,894 B2 | 10/2001 | Eidson <i>et al.</i> | | | |
| | AI61 | 6,091,289 | 07/2000 | Song <i>et al.</i> | | | |

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| | AJ | | | | | | Yes No |
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|---------------------|------|-----------------|---------|--------------------------|-------|-----------|-------------|
| | AA62 | 6,437,639 B1 | 08/2002 | Nguyen <i>et al.</i> | | | |
| | AB62 | 2002/0037706 A1 | 03/2002 | Ichihara | | | |
| | AC62 | 4,441,080 | 04/1984 | Saari | | | |
| | AD62 | 4,873,492 | 10/1989 | Myer | | | |
| | AE62 | 5,697,074 | 12/1997 | Makikallio <i>et al.</i> | | | |
| | AF62 | 5,784,689 | 07/1998 | Kobayashi | | | |
| | AG62 | 6,335,656 B1 | 01/2002 | Goldfarb <i>et al.</i> | | | |
| | AH62 | 6,690,232 B2 | 02/2004 | Ueno <i>et al.</i> | | | |
| | AI62 | 5,636,140 | 06/1997 | Lee <i>et al.</i> | | | |

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| | AJ | | | | | | Yes No |
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| | AM | | | | | | Yes No |

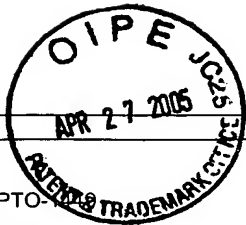
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FORM PTO-100

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|---------------------|------|-----------------|---------|-------------------------|-------|-----------|-------------|
| | AA63 | 6,366,622 B1 | 04/2002 | Brown <i>et al.</i> | | | |
| | AB63 | 6,600,795 B1 | 07/2003 | Ohta <i>et al.</i> | | | |
| | AC63 | 4,250,458 | 02/1981 | Richmond <i>et al.</i> | | | |
| | AD63 | 5,760,629 | 06/1998 | Urabe <i>et al.</i> | | | |
| | AE63 | 6,084,465 | 07/2000 | Dasgupta | | | |
| | AF63 | 6,204,789 B1 | 03/2001 | Nagata | | | |
| | AG63 | 6,064,054 | 05/2000 | Waczynski <i>et al.</i> | | | |
| | AH63 | 5,218,562 | 06/1993 | Basehore <i>et al.</i> | | | |
| | AI63 | 5,239,496 | 08/1993 | Vancraeynest | | | |

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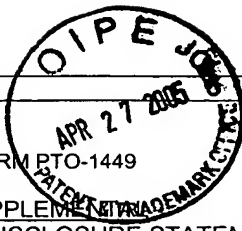
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|---------------------|------|-----------------|---------|------------------------|-------|-----------|-------------|
| | AA64 | 5,896,304 | 04/1999 | Tiemann <i>et al.</i> | | | |
| | AB64 | 6,005,903 | 12/1999 | Mendelovicz | | | |
| | AC64 | 5,834,979 | 11/1998 | Yatsuka | | | |
| | AD64 | 6,798,351 B1 | 09/2004 | Sorrells <i>et al.</i> | | | |
| | AE64 | 6,813,485 B2 | 11/2004 | Sorrells <i>et al.</i> | | | |
| | AF64 | 5,410,270 | 04/1995 | Rybicki <i>et al.</i> | | | |
| | AG64 | 6,509,777 B2 | 01/2003 | Razavi <i>et al.</i> | | | |
| | AH64 | 5,982,329 | 11/1999 | Pittman <i>et al.</i> | | | |
| | AI64 | 3,614,630 | 10/1971 | Rorden | | | |

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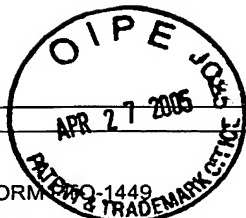
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| | AA65 | 6,836,650 B2 | 12/2004 | Sorrells <i>et al.</i> | | | |
| | AB65 | 5,844,868 | 12/1998 | Takahashi <i>et al.</i> | | | |
| | AC65 | 6,385,439 B1 | 05/2002 | Hellberg | | | |
| | AD65 | 6,741,139 B2 | 05/2004 | Pleasant <i>et al.</i> | | | |
| | AE65 | 6,823,178 B2 | 11/2004 | Pleasant <i>et al.</i> | | | |
| | AF65 | 6,850,742 B2 | 02/2005 | Fayyaz | | | |
| | AG65 | 2002/0049038 A1 | 04/2002 | Sorrells <i>et al.</i> | | | |
| | AH | | | | | | |
| | AI | | | | | | |

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| | AK | | | | | | Yes No |
| | AL | | | | | | Yes No |
| | AM | | | | | | Yes No |

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